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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/717,957	11/20/2003	Shiva P. Singeetham	2065.001900	9015
23720	7590	05/15/2009		
WILLIAMS, MORGAN & AMERSON			EXAMINER	
10333 RICHMOND, SUITE 1100			DUNWOODY, AARON M	
HOUSTON, TX 77042				
		ART UNIT	PAPER NUMBER	
		3679		
		MAIL DATE	DELIVERY MODE	
		05/15/2009	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/717,957

Applicant(s)

SINGEETHAM ET AL.

Examiner

Aaron M. Dunwoody

Art Unit

3679

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 9/2/08.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9, 11-23, 25-36 and 38-73 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9, 11-23, 25-36 and 38-73 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 15 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The terms "downwardly" and "upwardly" in claims 15 and 29 are relative terms which renders the claim indefinite. The terms "downwardly" and "upwardly" are not defined by the claims, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-9, 11-23, 25-36 and 38-73 are rejected under 35 U.S.C. 102(b) as being anticipated by US patent 4526406, Nelson.

In regards to claim 1, in Figure 3 below, Nelson discloses a connector, comprising:

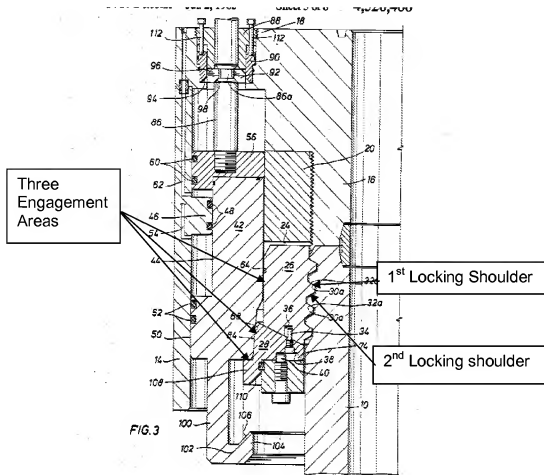
a first end adapted to be coupled to a first component (having any convenient size and shape);

a plurality of locking segments (26, 28) that, when actuated, are adapted to secure said first component to a second component (having any convenient size and shape), wherein each of said plurality of locking segments comprises:

a first primary locking shoulder that is adapted to engage a first surface on said first component; and

a second primary locking shoulder that is adapted to engage a second surface on said second component; and

a locking mandrel (22) that, when actuated, is adapted to engage each of said plurality of locking segments at at least three discrete, spaced apart engagement areas.



In regards to claim 2, in Figure 3 above, Nelson discloses at least one of said engagement areas is a substantially flat engagement area defined by the engagement of substantially flat surfaces.

In regards to claim 3, in Figure 3 above, Nelson discloses all of said engagement areas are substantially flat engagement areas defined by the engagement of substantially flat surfaces.

In regards to claim 4, in Figure 3 above, Nelson discloses at least one of said engagement areas (84) is a tapered engagement area defined by the engagement of tapered surfaces.

In regards to claim 5, Nelson discloses all of said engagement areas are tapered engagement areas (with respect to any convenient reference plane) defined by the engagement of tapered surfaces.

In regards to claim 6, Nelson discloses said first end is threadingly coupled to said first component.

In regards to claim 7, Nelson discloses said first component is comprised of at least one of a blowout preventer, a riser, a production tree, a tubing head and a running tool.

In regards to claim 8, Nelson discloses said second component is comprised of at least one of a blowout preventer, a riser, a production tree, a tubing head and a running tool.

In regards to claim 9, Nelson discloses at least one indicator rod (86) that is operatively coupled to said locking mandrel and adapted to indicate a position of said locking mandrel.

In regards to claim 11, Nelson discloses each of said plurality of locking segments further comprises:

a first secondary shoulder on said locking segment that is adapted to engage a first secondary shoulder on said first component; and

a second secondary shoulder on said locking segment that is adapted to engage a second secondary shoulder on said second component.

In regards to claim 12, Nelson discloses said first primary locking shoulder and said first surface on said first component are tapered surfaces.

In regards to claim 13, Nelson discloses said second primary locking shoulder and said second surface on said second component are tapered surfaces.

In regards to claim 14, Nelson discloses said locking mandrel comprises a plurality of recesses, each of which is adapted to receive a protrusion on said locking segments when said locking segments are in a disengaged position.

In regards to claim 15, Nelson discloses each of said locking segments is comprised of a downwardly facing surface that is adapted to engage an upwardly facing surface on said locking mandrel when said locking mandrel is actuated to disengage said connector.

In regards to claim 16, Nelson discloses said locking mandrel is operatively coupled to a primary piston.

In regards to claim 17, Nelson discloses a secondary release piston positioned below said primary piston, said secondary release piston adapted to, when actuated, cause said primary piston to move.

In regards to claim 18, Nelson discloses a connector, comprising:

a first end adapted to be coupled to a first component;

a plurality of locking segments that, when actuated, are adapted to secure said first component to a second component, wherein each of said plurality of locking segments comprises:

a first primary locking shoulder that is adapted to engage a first surface on said first component; and

a second primary locking shoulder that is adapted to engage a second surface on said second component; and

a locking mandrel that, when actuated, is adapted to engage each of said plurality of locking segments at at least two discrete, spaced apart substantially flat engagement areas, wherein said substantially flat engagement surfaces are substantially parallel to an axis of said first and second components when mated.

In regards to claim 19, Nelson discloses said connector is engaged at at least three discrete, spaced apart substantially flat engagement areas.

In regards to claim 20, Nelson discloses said first end is threadingly coupled to said first component.

In regards to claim 21, Nelson discloses said first component is comprised of at least one of a blowout preventer, a riser, a production tree, a tubing head and a running tool.

In regards to claim 22, Nelson discloses said second component is comprised of at least one of a blowout preventer, a riser, a production tree, a tubing head and a running tool.

In regards to claim 23, Nelson discloses comprising at least one indicator rod that is operatively coupled to said locking mandrel and adapted to indicate a position of said locking mandrel.

In regards to claim 25, Nelson discloses each of said plurality of locking segments further comprises: a first secondary shoulder on said locking segment that is adapted to engage a first secondary shoulder on said first component; and a second secondary shoulder on said locking segment that is adapted to engage a second secondary shoulder on said second component.

In regards to claim 26, Nelson discloses said first primary locking shoulder and said first surface on said first component are tapered surfaces.

In regards to claim 27, Nelson discloses said second primary locking shoulder and said second surface on said second component are tapered surfaces.

In regards to claim 28, Nelson discloses said locking mandrel comprises a plurality of recesses, each of which is adapted to receive a protrusion on said locking segments when said locking segments are in a disengaged position.

In regards to claim 29, Nelson discloses each of said locking segments is comprised of a downwardly facing surface that is adapted to engage an upwardly facing surface on said locking mandrel when said locking mandrel is actuated to disengage said connector.

In regards to claim 30, Nelson discloses said locking mandrel is operatively coupled to a primary piston.

In regards to claim 31, Nelson discloses a secondary release piston positioned below said primary piston, said secondary release piston adapted to, when actuated, cause said primary piston to move.

In regards to claim 32, Nelson discloses a connector, comprising:

a first end adapted to be coupled to a first component;

a plurality of locking segments that, when actuated, are adapted to secure said first component to a second component, wherein each of said plurality of locking segments comprises: a first primary locking shoulder that is adapted to engage a first surface on said first component; and

a second primary locking shoulder that is adapted to engage a second surface on said second component; and

a locking mandrel that, when actuated, is adapted to engage each of said plurality of locking segments at three discrete, spaced apart, substantially flat engagement areas.

In regards to claim 32, Nelson discloses said first end is threadingly coupled to said first component.

In regards to claim 34, Nelson discloses said first component is comprised of at least one of a blowout preventer, a riser, a production tree, a tubing head and a running tool.

In regards to claim 35, Nelson discloses said second component is comprised of at least one of a blowout preventer, a riser, a production tree, a tubing head and a running tool.

In regards to claim 36, Nelson discloses comprising at least one connector rod that is operatively coupled to said locking mandrel and adapted to indicate a position of said locking mandrel.

In regards to claim 38, Nelson discloses at least one of said substantially flat areas is axially positioned between said first and second primary shoulders and laterally offset therefrom.

In regards to claim 39, Nelson discloses each of said plurality of locking segments further comprises:

a first secondary shoulder on said locking segment that is adapted to engage a first secondary shoulder on said first component; and

a second secondary shoulder on said locking segment that is adapted to engage a second secondary shoulder on said second component.

In regards to claim 40, Nelson discloses said first primary locking shoulder and said first surface on said first component are tapered surfaces.

In regards to claim 41, Nelson discloses said second primary locking shoulder and said second surface on said second component are tapered surfaces.

In regards to claim 42, Nelson discloses said locking mandrel comprises a plurality of recesses, each of which is adapted to receive a protrusion on said locking segments when said locking segments are in a disengaged position.

In regards to claim 43, Nelson discloses each of said locking segments is comprised of a downwardly facing surface that is adapted to engage an upwardly facing

surface on said locking mandrel when said locking mandrel is actuated to disengage said connector.

In regards to claim 44, Nelson discloses said locking mandrel is operatively coupled to a primary piston.

In regards to claim 45, Nelson discloses comprising a secondary release piston positioned below said primary piston, said secondary release piston adapted to, when actuated, cause said primary piston to move.

In regards to claim 46, Nelson discloses a connector, comprising: a first end adapted to be coupled to a first component; a plurality of locking segments that, when actuated, are adapted to secure said first component to a second component, wherein each of said plurality of locking segments comprises: a first primary locking shoulder that is adapted to engage a first surface on said first component, and a second primary locking shoulder that is adapted to engage a second surface on said second component; and a locking mandrel that, when actuated, is adapted to engage each of said plurality of locking segments at three discrete, spaced apart, substantially flat engagement areas.

In regards to claim 47, Nelson discloses said first end is threadingly coupled to said first component.

In regards to claim 48, Nelson discloses said first component is comprised of at least one of a blowout preventer, a riser, a production tree, a tubing head and a running tool.

In regards to claim 49, Nelson discloses said second component is comprised of at least one of a blowout preventer, a riser, a production tree, a tubing head and a running tool.

In regards to claim 50, Nelson discloses comprising at least one connector rod that is operatively coupled to said locking mandrel and adapted to indicate a position of said locking mandrel.

In regards to claim 51, Nelson discloses each of said plurality of locking segments further comprises: a first secondary shoulder on said locking segment that is adapted to engage a first secondary shoulder on said first component; and a second secondary shoulder on said locking segment that is adapted to engage a second secondary shoulder on said second component.

In regards to claim 52, Nelson discloses said first primary locking shoulder and said first surface on said first component are tapered surfaces.

In regards to claim 53, Nelson discloses said second primary locking shoulder and said second surface on said second component are tapered surfaces.

In regards to claim 54, Nelson discloses said locking mandrel comprises a plurality of recesses, each of which is adapted to receive a protrusion on said locking segments when said locking segments are in a disengaged position.

In regards to claim 55, Nelson discloses each of said locking segments is comprised of a downwardly facing surface that is adapted to engage an upwardly facing surface on said locking mandrel when said locking mandrel is actuated to disengage said connector.

In regards to claim 56, Nelson discloses said locking mandrel is operatively coupled to a primary piston.

In regards to claim 57, Nelson discloses a connector, comprising: a first end adapted to be coupled to a first component; a plurality of means for securing said first component to a second component, each of said means for securing comprising: a first primary locking shoulder that is adapted to engage a first surface on said first component; and a second primary locking shoulder that is adapted to engage a second surface on said second component; and means for engaging each of said means for securing said first component to said second component at at least three discrete, spaced apart engagement areas.

In regards to claim 58, Nelson discloses said plurality of means for securing said first component to said second component comprises a plurality of locking segments, each of which are adapted to, when actuated, engage said first and second components.

In regards to claim 59, Nelson discloses said means for engaging each of said means for securing said first component to said second component comprises a locking mandrel.

In regards to claim 60, Nelson discloses a means for actuating said means for engaging each of said plurality of securing means.

In regards to claim 61, Nelson discloses said means for actuating said means for engaging comprises a piston operatively coupled to said means for engaging.

In regards to claim 62, Nelson discloses a secondary release means for disengaging said means for engaging each of the means for securing said first component to said second component.

In regards to claim 63, Nelson discloses said secondary release means comprises a piston.

In regards to claim 64, Nelson discloses at least one of said engagement areas is a substantially flat engagement area defined by the engagement of substantially flat surfaces.

In regards to claim 65, Nelson discloses all of said engagement areas are substantially flat engagement areas defined by the engagement of substantially flat surfaces.

In regards to claim 66, Nelson discloses at least one of said engagement areas is a tapered engagement area defined by the engagement of tapered surfaces.

In regards to claim 67, Nelson discloses all of said engagement areas are tapered engagement areas defined by the engagement of tapered surfaces.

In regards to claim 68, Nelson discloses said first component is comprised of at least one of a blowout preventer, a riser, a production tree, a tubing head and a running tool.

In regards to claim 69, Nelson discloses said second component is comprised of at least one of a blowout preventer, a riser, a production tree, a tubing head and a running tool.

In regards to claim 70, Nelson discloses said primary piston is positioned within a body of said connector.

In regards to claim 71, Nelson discloses said primary piston is positioned within a body of said connector.

In regards to claim 72, Nelson discloses said primary piston is positioned within a body of said connector.

In regards to claim 73, Nelson discloses said primary piston is positioned within a body of said connector.

Response to Arguments

Applicant's arguments filed 9/2/2008 have been fully considered but they are not persuasive.

Applicant argues that "the use of the words 'upwardly facing' and 'downwardly facing' are used in their normal sense, i.e., up or down relative to the ground", and therefore not indefinite. The Examiner disagrees. If the center axis of the connector is normal to the ground then upwardly and downwardly makes sense, but if the center axis of the connector is parallel to the ground then upwardly and downwardly does not make sense, which renders the claim indefinite.

Applicant argues that Examiner has ignored the "adapted to" function. The Examiner disagrees. The Examiner has given the "adapted to" function all of the patentable weight it is entitled to. The MPEP recites:

2111.04 [R-3] "Adapted to," "Adapted for," "Wherein," and "Whereby" Clauses

Claim scope is not limited by claim language that suggests or makes optional but does not require steps to be performed, or by claim language that does not limit a claim to a particular structure. However, examples of claim language, although not exhaustive, that may raise a question as to the limiting effect of the language in a claim are:

- (A) "adapted to" or "adapted for" clauses;
- (B) "wherein" clauses; and
- (C) "whereby" clauses.

The determination of whether each of these clauses is a limitation in a claim depends on the specific facts of the case. In *Huffer v. Microsoft Corp.*, 405 F.3d 1326, 1329, 74 USPQ2d 1481, 1483 (Fed. Cir. 2005), the court held that when a "whereby" clause states a condition that is material to patentability, it cannot be ignored in order to change the substance of the invention." *Id.* However, the court noted (quoting *Minton v. Nat'l Ass'n of Securities Dealers, Inc.*, 336 F.3d 1373, 1381, 67 USPQ2d 1614, 1620 (Fed. Cir. 2003)) that a "whereby clause in a method claim is not given weight when it simply expresses the intended result of a process step positively recited." *Id.*

2173.05(g) [R-3] Functional Limitations

A functional limitation is an attempt to define something by what it does, rather than by what it is (e.g., as evidenced by its specific structure or specific ingredients). There is nothing inherently wrong with defining some part of an invention in functional terms. Functional language does not, in and of itself, render a claim improper. *In re Swinehart*, 439 F.2d 210, 169 USPQ 226 (CCPA 1971).

A functional limitation must be evaluated and considered, just like any other limitation of the claim, for what it fairly conveys to a person of ordinary skill in the pertinent art in the context in which it is used. A functional limitation is often used in association with an element, ingredient, or step of a process to define a particular capability or purpose that is served by the recited element, ingredient or step. *In Innova Pure Water Inc. v. Suifon Water Filtration Sys. Inc.*, 381 F.3d 1111, 1117-20, 72 USPQ2d 1001, 1006-08 (Fed. Cir. 2004), the court noted that the claim term "operatively connected" is "a

general descriptive claim term frequently used in patent drafting to reflect a functional relationship between claimed components," that is, the term "means the claimed components must be connected in a way to perform a designated function." "In the absence of modifiers, general descriptive terms are typically construed as having their full meaning." *Id.* at 1118, 72 USPQ2d at 1006. In the patent claim at issue, "subject to any clear and unmistakable disavowal of claim scope, the term operatively connected" takes the full breath of its ordinary meaning, i.e., said tube [is] operatively connected to said cap" when the tube and cap are arranged in a manner capable of performing the function of filtering." *Id.* at 1120, 72 USPQ2d at 1008.

Whether or not the functional limitation complies with 35 U.S.C. 112, second paragraph, is a different issue from whether the limitation is properly supported under 35 U.S.C. 112, first paragraph, or is distinguished over the prior art. A few examples are set forth below to illustrate situations where the issue of whether a functional limitation complies with 35 U.S.C. 112, second paragraph, was considered.

It was held that the limitation used to define a radical on a chemical compound as "incapable of forming a dye with said coexisting developing agent" although functional, was perfectly acceptable because it set definite boundaries on the patent protection sought. *In re Barr*, 444 F.2d 588, 170 USPQ 33 (CCPA 1971).

In a claim that was directed to a kit of component parts capable of being assembled, the Court held that limitations such as "members adapted to be positioned" and "portions . . . being resiliently dislutable whereby said housing may be slidably positioned" serve to precisely define present structural attributes of articulated component parts of the claimed assembly. *In re Venezia*, 530 F.2d 956, 189 USPQ 149 (CCPA 1976).

Further, the Examiner has addressed the functional claim limitation by stating that a first and second component can have any convenient size and shape. Several examples of first and second components that would be adapted to functional with the claimed coupling are illustrated in following patents.

US 5,470,111	Nelson et al	1 st component--18	2 nd component--20
US 5,320,388	Lacy et al	1 st component--10	2 nd component--18
US 4,709,946	Hunter	1 st component--14,26	2 nd component--32
US 3,811,710	Dula et al	1 st component--12	2 nd component--18
US 3,620,555	Hinds et al	1 st component--2	2 nd component--3
US 3,192,612	Elliot et al	1 st component--10,11	2 nd component--13,15
US 2,086,151	Bannerman	1 st component--1	2 nd component--2
US 1,953,172	Griffiths	1 st component--1	2 nd component--3

The Examiner has given the "adapted to" function all of the patentable weight it is entitled to.

Furthermore, the Examiner has not applied a 112 2nd paragraph rejection stating that the claims are vague and indefinite because Applicant has used "adapted to" language. The language in the presently present claims is readily understandable; however, the limitations associated with such language must not be considered a positively recited limitation. Therefore, Nelson meets the functional limitation of being adapted to engage a first and second component.

Applicant argues that Nelson fails to disclose all of the engagement surfaces being substantially flat surfaces. The Examiner disagrees. The claim does not exclude a flat inclined surface or flat tapered surface, as the surfaces only need to be substantially flat. In Figure 3 above, Nelson clearly illustrates all of the engagement surfaces being **substantially flat** surfaces.

Applicant argues that Nelson fails to disclose a connector that is threadingly coupled to a first component. The Examiner disagrees. As the first and second components are "adapted to" connect with the connector, and not considered part of the claimed invention, the Examiner interprets the claim language as being adapted to threadingly couple to a first component. Therefore, Nelson meets the claim limitation.

Applicant argues that Nelson fails to disclose each of the locking segments have first and second secondary shoulders that area adapted to engage first and second secondary shoulders on the first and second components, respectively. The Examiner disagrees. Several examples of first and second components that would be adapted to functional with the claimed coupling are illustrated in patents listed in the table above. Therefore, Nelson meets the claim limitation.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aaron M. Dunwoody whose telephone number is 571-272-7080. The examiner can normally be reached on 7:30 am - 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel P. Stodola can be reached on 571-272-7087. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Aaron M Dunwoody/
Primary Examiner, Art Unit 3679

.amd